(b) The indicative cost of grid-interactive renewable power for different resources is given in the Statement (*See* below).

(c) The aim is to align the unit cost of generation of renewable power not only to international levels but also with conventional power through support for accurate resource assessment; research, design and development; introduction of standards at par with international levels; and increased competition in the sector.

Statement

Indicative cost of grid interactive renewable power for different resources

Sl. No.	Source	(Rs./KWh)
1.	Small Hydro Power	1.50-3.50
2.	Wind Power	2.00-3.50
3.	Biomass Power (including bagasse cogeneration)	2.50-3.50
4.	Urban/Industrial Waste-to-Power	2.50-7.50
5.	Solar Photovoltaic Power	20.00-30.00*

*with battery back-up

Power generation from non-conventional energy sources

†3872. SHRI JAI PARKASH AGGARWAL: Will the Minister of NON-CONVENTIONAL ENERGY SOURCES be pleased to state:

(a) whether power is being generated from non-conventional energy sources in the country, especially in rural areas;

(b) the extent of power being generated State-wise; and

(c) whether Government have explored the possibility of power generation from non-conventional energy sources especially in rural areas?

†Original notice of the question was received in Hindi.

THE MINISTER OF STATE OF THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (SHRI VILAS MUTTEMWAR): (a) and (b) Yes, Sir. Over 8000 MW grid interactive renewable power generation capacity has been already set up in the country, including the rural areas, as on 31.3.2006. State-wise details thereof are given in the Statement (*See* below).

(c) The medium term (2032) estimated potential of power generation from renewable energy sources has been estimated at 1,83,000 MW in the country, including rural areas, details of which are given in Statement-II 2237 remote unelectrified census villages and 594 unelectrified hamplets of electrified census villages have already been provided with electricity/lighting through renewable energy means, as on 31.03.2006.

Statement-I

State-wise details of grid-interactive renewable power generation capacity set up in the country as on 31.03.2006

Sl. No.	States/UT	Small Hydro Power (MW)	Wind Power (MW)	Biomass Power (MW)	Waste to Energy (MW)	Solar Power (MW)	Total Capacity (MW)
1	2	3	4	5	6	7	8
1.	Andhra Pradesh	178.81	121.00	279.25	22.50	0.28	601.84
2.	Arunachal Pradesh	44.30					44.30
3.	Assam	2.11					2.11
4.	Bihar	50.40					50.40
5.	Chhattisgarh	11.00		27.50			38.50
6.	Goa	0.05					0.05
7.	Gujarat	7.00	338.10	0.50			345.60
8.	Haryana	62.70		6.00			68.70
9.	Himachal Pradesh	132.08					132.08
10.	Jammu & Kashmir	109.74					109.74
11.	Jharkhand	4.05					4.05
12.	Karnataka	329.63	584.60	224.48	1.00	0.03	1139.74
13.	Kerala	84.62	2.00			0.03	86.65
14.	Madhya Pradesh	41.16	40.30	1.00	2.70	0.34	85.50
15.	Maharashtra	207.06	989.60	36.00	1.00	0.19	1233.87

1	2	3	4	5	6	7	8
16.	Manipur	5.45					5.45
17.	Meghalaya	30.71					30.71
18.	Mizoram	14.76					14.76
19.	Nagaland	20.67					20.67
20.	Orissa	7.30					7.30
21.	Punjab	122.55		28.00	1.00	0.33	151.88
22.	Rajasthan	23.85	339.60	15.30		0.15	378.90
23.	Sikkim	38.60					38.60
24.	Tamil Nadu	77.70	2892.50	174.00	1.75	0.21	3146.16
25.	Tripura	16.01					16.01
26.	Uttar Pradesh	25.10		121.50	5.00	0.33	151.93
27.	Uttaranchal	75.45				0.05	75.50
28.	West Bengal	98.30	1.10			0.05	99.45
29.	Andaman & Nicobar	5.25				0.10	5.35
30.	Chandigarh						
31.	Dadra & Nagar Haveli						
32.	Daman & Diu						
33.	Delhi						
34.	Lakshadweep					0.65	0.65
35.	Pondicherry					0.03	0.03
	Others		1.60				1.60
	TOTAL (MW)	1826.43	5310.40	913.53	34.95	2.75	8088.06

MW=Megawatt

Statement-II

Details of medium-term (2032) estimated potential of power generation from renewable energy sources

(in MW)

Sl.No.	Resource	Indicative Estimated Potential
1	2	3
1.	Bio Power (Agro residues & Plantations	61,000[1]
2.	Wind Power	45,000[2]
3.	Small Hydro Power (upto 25 MW)	15,000

1	2	3
4.	Cogeneration-bagasse	5,000
5.	Waste to Energy	7,000
6.	Solar Power	50,000[3]
	TOTAL	1,83,000

MW=Megawatt;

Note:—Basis for deriving the Interactive Estimated Potential:

1. From around 20mha of wastelands yielding 10MT/ha/annum of woody biomass giving 4000 k-cal/kg with system efficiency of 30% and 75% PLF. In order to realize the estimated potential a major inter-Ministerial initiative involving, among others, Agriculture, Rural Development, Panchayati Raj, Environment and Forests would be required.
2. Sites with wind densities of 250 W/m2 or higher with 3% of assessed area available for wind farms requiring 12 ha/MW. The technically feasible potential for grid-interactive power could be lower if sites with wind densities of 300 W/m2 or higher are considered as suitable in keeping with international practice.
3. Depending on future developments making solar technology cost-competitive for grid power applications.

Implementation of solar energy schemes

3873. SHRI T.R. ZELIANG: Will the Minister of NON-CONVENTIONAL ENERGY SOURCES be pleased to state:

(a) the details of welfare schemes and programmes being implemented under solar energy programme by Government in the country, particularly in the NER;

(b) the details of criteria/formula and guidelines adopted by Government to provide loans, grants and other assistance for the said purposes;

(c) the names of the schemes being implemented directly by Government/public undertakings/private undertakings in the NER under the Solar Energy Programme during the last three years and till-date; and

(d) the details of loans, financial grants allocated, sanctioned and the amount actually utilized by Government during the last three years, State-wise?